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(12) # EUROPEAN PATENT APPLICATION

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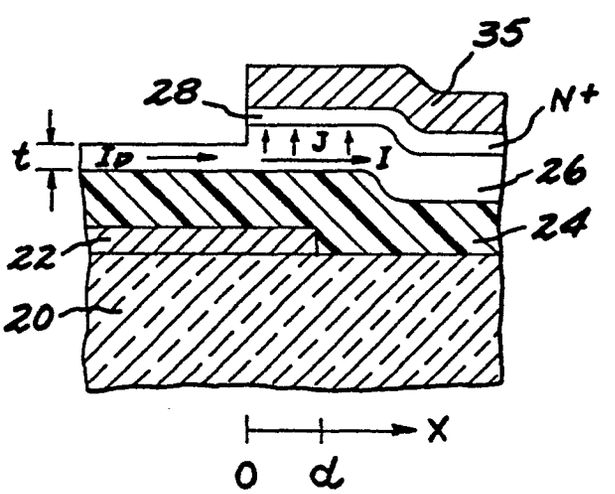
(74) Representative: **Smith, Thomas Ian Macdonald et al, GE/RCA Patent Operation Burdett House 15-16 Buckingham Street, London WC2N 6DU (GB)**

(54) **Low capacitance amorphous silicon field effect transistor structure.**

(57) An amorphous silicon thin film FET is structured to be particularly useful for use in liquid crystal display circuits. In particular, critical FET dimensions are provided which permit optimal reduction of source to gate capacitance, while at the same time, preventing the occurrence of large contact voltage drops. Critical dimensions include active channel length, source-gate overlap, and amorphous silicon thickness. A critical relationship is established amongst these parameters.



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EUROPEAN SEARCH REPORT

0210625

Application number

EP 86 11 0373

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int Cl 4)
A	APPLIED PHYSICS A, SOLIDS AND SURFACES, vol. A31, no. 2, June 1983, pages 87-92, Springer Verlag, Heidelberg, DE; K.D. MACKENZIE et al.: "The characteristics and properties of optimised amorphous silicon field effect transistors" * Pages 90-91, paragraph 3 "Investigation of the ON-State"; figure 1 *	1-3	H 01 L 29/78 H 01 L 29/06
A	APPLIED PHYSICS LETTERS, vol. 36, no. 9, May 1980, pages 754-755, American Institute of Physics, New York, US; H. HAYAMA et al.: "Amorphous-silicon thin-film metal-oxide-semiconductor transistors" * Page 754, column 2, line 4; figure 1 *	1,3,4	TECHNICAL FIELDS SEARCHED (Int. Cl.4) H 01 L
A	PROCEEDINGS OF THE S.I.D., vol. 25, no. 1, 1984, SID, Los Angeles, California, US; K. SUZUKI et al.: "A 220 x 240 PIXEL a-Si TFT matrix transmission liquid crystal display" * Page 11, column 2 - page 12, column 2, line 31; figures 1,3 *	1,3,5	

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	21-09-1987	MORVAN D.L.D.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A	APPLIED PHYSICS LETTERS, vol. 45, no. 2, July 1984, pages 171-173, American Institute of Physics, New York, US; M.J. POWELL et al.: "Characteristics of amorphous silicon staggered-electrode thin-film transistors" * Figures 1,2 * ---	1	

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

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